Part 15 NPRM on Radar Detector Interference

Hughes Network Systems

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HNS Overview

HUGHES NETWORK SYSTEMS

HNS is the world's premier provider of broadband satellite services, products and network solutions

- **Hughes Network Systems, a subsidiary of Hughes Electronics Corporation, is the world's largest provider of broadband satellite network solutions for businesses and consumers.**
- **Over 500,000 VSAT systems installed in more than 85 countries - more than half of which are in the USA.**
- **HNS pioneered the development of high-speed satellite Internet access services, marketed globally under DirecPC® and DIRECWAY® brands.**
- **Revenues in 2001: $1.3 billion.**
- **Headquartered in Germantown, MD, with a major facility in San Diego, CA, and more than 30 facilities and sales offices worldwide, HNS employs over 4,400 people in engineering, operations, marketing, sales, and support.**
- **HNS operates manufacturing facilities in Maryland; the U.K.; and Mexico.**

Innovator of Broadband Services, Products, and Network Solutions

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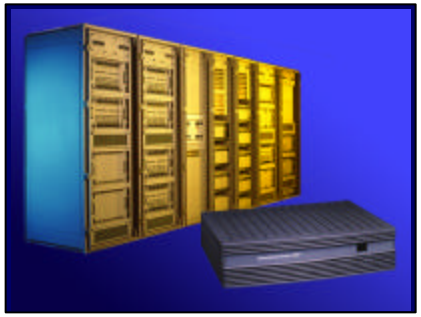
1983

Invention of first VSAT

1990



First Mesh VSAT (PES™)

1994

DIRECTV®

1995

DirecPC®
Dial Return Service

1999

DirecDuo™

2000

Shipped 8,000,000th
DIRECTV Set-Top box

2001

DIRECWAY®
Satellite Return Service

2003

SPACEWAY

Next Generation Kaband
Broadband

Corporate VSAT Services

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- **VSATs provide networking services to every sector of the American economy:**
  - **Oil and gas**
    - HNS has more than 40,000 gasoline retail locations under contract today
  - **Financial services**
  - **Shipping**
  - **Merchandising**
  - **Telecommunications**
  - **Law enforcement**
  - **Local, state and federal governmental agencies**
- **VSAT services are provided today in C and Ku Bands under primary FSS allocation**
  - **VSATs operate pursuant to earth station licenses issued by the Commission**
- **Licensed operators and customers have legitimate expectation of protection from harmful interference**

Current Regulation of Radar Detectors

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- **Radar detectors as Part 15 devices are required to operate on a non-interference basis**
- **Radar detectors are exempted from emissions limits in Section 15.109 by Section 15.101(b)**
  - **Impractical and difficult to enforce existing part 15 non-interference rules against consumers who operate radar detectors**
- **General Section 15.109 Emissions Limit - - *but not Radar Detectors***
  - **500 microvolts/meter measured at a distance of 3m for frequencies above 960 MHz**
- **FCC issued NPRM in October 2001 to resolve this radar detector interference problem and subject these devices to Part 15 emissions limits**

The Radar Detector Interference Problem

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- **Radar detectors produce harmful interference into licensed VSAT operations**
  - **Interference events increasing**
  - **New radar detectors active in more bands above 960 MHz**
  - **Levels emitted are above 100,000 microvolts/meter measured at a distance of 3 meters**

- **Commercial impact of this interference is significant**
  - **For Customers: Credit card and billing transactions may be rendered non-operational**
  - **For Satellite and Network Operators: Current and prospective customers are concerned about continued viability of VSAT services**

Necessary Solution

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- **Regulate emission levels of radar detectors**
  - ***Need to establish emissions limit of 85 microvolts/meter measured at 3 meters for radar detectors operating between 10.7-12.7 GHz***
  - ***Subject radar detectors operating in other frequency ranges above 30 MHz to the relevant emission limits of 15.109(a)***
- **Require all radar detectors to comply with the new emission limits immediately**
  - ***Apply new regulation to all radar detectors not yet sold***
  - ***Impose compliance on radar detectors already in circulation through trade-in programs or other mechanisms***

Conclusion

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- **Record is complete with uncontroverted showings of harmful interference caused to VSATs by radar detectors**
- **Need urgent action by FCC to establish rule for radar detectors with immediate effect**
  - **For radar detectors operating between 10.7-12.7 GHz,**
    - **Regulate emissions levels of radar detectors at level of 85 microvolts/meter measured at 3 meters**
  - **For radar detectors operating in other frequency ranges above 30 MHz,**
    - **Apply the relevant emissions limits of 15.109(a)**
- **Impose new regulation on all existing and future radar detectors**